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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,053	09/29/2003	Kurt Ulmer	200210246-02	2572

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EXAMINER	
LEWIS, BEN	

ART UNIT	PAPER NUMBER
1745	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/674,053	ULMER ET AL.	
	Examiner	Art Unit	
	Ben Lewis	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) 8-27 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 29 September 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 8/8/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of the species drawn to a fuel cell system (readable on claims 1-7) during a phone conversation with Mr. Brian Tangerly on December 27th 2005 is acknowledged.

Claims 8-27 are withdrawn from further consideration pursuant to 37 CFR 1. 142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse during a phone conversation with Mr. Brian Tangerly on December 27th 2005.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Pearson (U.S. Pub. No. 2004/0126635 A1).

With respect to claims 1,6 and 7, Pearson discloses an electric power plant with adjustable array of fuel cell systems wherein In step **134**, the control logic **64** determines an electrical configuration of series and/or parallel combinations of a number of fuel cell systems 10(1, 1)-10(M, N) to provide the desired power, voltage and/or current. In step **136**, the control logic **64** operates a number of the redundant switches such as a transistor **60** (FIG. 2, only one shown) to electrically couple respective ones of fuel cell systems 10(1, 1)-10(M, N) into the determined electrical configuration (Paragraph 0099). Pearson et al also teach that one skilled in the art will also recognize that the two-dimensional array **68** permits the parallel coupling of fuel cell systems **10** to adjust the output power of the power supply system **50** by adjusting an output current. One skilled in the art will further recognize that the two-dimensional array **68** permits the series and parallel coupling of fuel cell systems **10** to adjust the output power of the power supply system **50** by adjusting both the output current and the output voltage (Paragraph 0078).

With respect to claim 4, Pearson teaches that additionally or alternatively, the control logic 64 may receive an input from the user or operator via the user interface 66 which may comprise a set of user controls to set operating parameters such as power,

voltage, and or current thresholds, to set desired parameters such as desired power, desired voltage or desired current nominal values, to provide electrical configuration information, to provide switching signals, and/or to signals to override the automatic operating aspects of the control logic 64 (Paragraph 0075).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearson (U.S. Pub. No. 2004/0126635 A1) as applied to claims 1,4,6 and 7 above and further in view of Fisher et al. (U.S. Pub No. 2003/017556 A1).

With respect to claims 2 and 5, Pearson discloses an electric power plant with adjustable array of fuel cell systems in paragraph 2 above. Pearson do not specifically teach a temperature measurement circuit. However, Fisher et al discloses fuel cell power systems and methods of operating fuel cell power systems wherein, the depicted fuel cell power system **10** includes a fuel delivery system **40**. Fuel delivery system **40** couples with a fuel supply **42** to supply fuel to fuel cell cartridges **14** (Paragraph 0047). Fisher et al teach also teach that following a start-up condition either inputted via interface, the control system **20** electively controls the switching device **32** to couple power bus **88** with positive terminal **90**. The switching device **32** can comprise parallel

MOSFET switches to selectively couple positive and negative terminals **90** and **92** to the cartridges **14**. For example, the control system **20** may verify when an appropriate operational cartridge temperature has been reached, utilizing temperature sensor **62** (Paragraphs 0067-0068). Therefore it would have been obvious to one of ordinary skill in the art to incorporate the temperature sensor of Fisher et al into the fuel cell system of Pearson because Fisher et al teach that the control system **20** may verify when an appropriate operational cartridge temperature has been reached, utilizing temperature sensor **62** (Paragraphs 0067-0068).

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pearson (U.S. Pub. No. 2004/0126635 A1) as applied to claims 1,4,6 and 7 above and further in view of Fuglevand (U.S. Patent No. 6,497,974 B2).

With respect to claim 3, Pearson discloses an electric power plant with adjustable array of fuel cell systems in paragraph 2 above. Pearson do not specifically teach the first fuel cell or the second fuel cell comprising solid oxide fuel cells. However Fuglevand discloses a fuel cell power system wherein a fuel cell power system comprising an ultracapacitor electrically coupled to a load and which is charged and discharged to different voltages; a plurality of fuel cell subsystems electrically coupled together in series, and which produce direct current electrical energy; a switch electrically coupled with the plurality of fuel cell subsystems to selectively electrically couple the plurality of fuel cell subsystems to the ultracapacitor; and control circuitry which causes the switch to electrically couple the fuel cell to the ultracapacitor in

response to the voltage of the ultracapacitor being less than a first predetermined voltage (Col 4 lines 6-21). Fuglevand further teaches that the fuel cell power system comprises a fuel cell selected from the group consisting of proton exchange membrane, solid oxide, phosphoric acid, alkaline, and molten carbonate (Col 15 lines 14-18). Therefore it would have been obvious to one of ordinary skill in the art to incorporate the solid oxide fuel cell of Fuglevand into the fuel cell system of Pearson et al because Fuglevand further teaches that the fuel cell power system comprises a fuel cell selected from the group consisting of proton exchange membrane, solid oxide, phosphoric acid, alkaline, and molten carbonate (Col 15 lines 14-18).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben Lewis whose telephone number is 571-272-6481. The examiner can normally be reached on 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER

Ben Lewis

Patent Examiner
Art Unit 1745